

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

HUAWEI TECHNOLOGIES CO. LTD,	§	
	§	Case No. 2:16-CV-00052-JRG-RSP
v.	§	Case No. 2:16-CV-00055-JRG-RSP
	§	Case No. 2:16-CV-00056-JRG-RSP
T-MOBILE US, INC., T-MOBILE U.S.A.,	§	Case No. 2:16-CV-00057-JRG-RSP
INC.,	§	

**MEMORANDUM OPINION AND ORDER**

T-Mobile moves to exclude Dr. Thomas Vander Veen's damages opinion under *Daubert* and Rule 702. Because Dr. Vander Veen's opinion is based on sufficiently reliable facts and data, T-Mobile's motion is denied.

**BACKGROUND**

Huawei contends the patents-in-suit are essential to certain cellular communications standards, including the LTE standard. Dr. Vander Veen's damages opinion represents what Dr. Vander Veen describes as a realistic method for determining the value of a patent essential to a particular standard. The methodology is suitable for valuing a large patent portfolio, such as Huawei's LTE essentials portfolio, and it is this mass-valuation feature of Dr. Vander Veen's opinion that underlies most of T-Mobile's objections to the opinion. Dr. Vander Veen's opinion includes the following steps: (1) determine what T-Mobile revenue is attributable to LTE technology; (2) isolate the profit from that revenue; (3) apportion the profit to the patents-in-suit; and (4) determine a final royalty rate based on the *Georgia Pacific* factors.

**A. Revenue Due to LTE Technology**

Dr. Vander Veen first determines T-Mobile's average revenue per user (per month) from providing wireless telecommunication services to its customers. Vander Veen Rep. ¶ 144, Dkt. 260-1. This includes revenue generated from T-Mobile's 2G, 3G, and 4G LTE networks, or in

other words, all the revenue T-Mobile receives from telecommunication services. *See id.* Dr. Vander Veen isolates the portion of that total revenue attributable to LTE technology using price regression analysis, which is a method Dr. Vander Veen uses to determine how the price of a mobile carrier plan is dependent on LTE coverage. *Id.* ¶ 145-46. In other words, Dr. Vander Veen estimates the price a customer would pay for LTE technology. *Id.* ¶¶ 147-64. Dr. Vander Veen assesses a number of different mobile carrier plans with different options, considers the value attributable to non-LTE related allowances such as data, minutes, messaging, and other options, and ultimately arrives at a percentage revenue attributable to a mobile service provider's ability to provide an LTE network. *Id.* ¶ 164.

### **B. Profit (or Cash Flow) Attributable to LTE Technology**

Dr. Vander Veen then takes the estimated revenue from LTE coverage and subtracts fixed costs and capital expenditures to estimate the profit (or cash flow per customer per month) that T-Mobile earns from providing its LTE network. *Id.* ¶¶ 166-67. Using different measure of incremental profit margin, Dr. Van Der Veen arrives at three different dollar values for the estimated monthly profit: \$3.06, \$1.58, and \$0.93. *Id.*

### **C. Apportionment of Profit to the Patents-in-Suit**

Assuming all the profit from the LTE network would be paid out in patent royalties, Dr. Vander Veen determines how much of that profit would be reserved for licenses to the patents-in-suit. *Id.* ¶¶ 171-79. He uses two methodologies, both of which rely on the number of Huawei's technical submissions related to the LTE technical specification that were approved by the standard setting organization. *Id.* A cellular standard such as the LTE standard consists of numerous different technical specifications, and each of these technical specifications defines how a subpart of the LTE network must operate. *See id.* ¶ 38. The standard-setting organization adopted each

technical specification based on technical submissions from industry members such as Huawei. Each technical specification, in other words, corresponds to a certain number of technical submissions that were approved by the standard-setting organization, i.e., that became part of the technical specification. Likewise, each technical specification corresponds to a number of patents that encompass the technical submission, and hence encompass some or all of the technical specification. *See id.*

Dr. Vander Veen's theory, which finds support in industry publications, is that (1) the value of the LTE standard is a collection of value provided by each individual technical specification; and (2) the value of each individual technical specification is correlated with the number of approved technical submissions associated with that technical specification. *See id.* ¶ 171-72. The reason, according to Dr. Vander Veen, is that a technical submission requires extensive capital expenditures and effort, balanced against the risk that the technical submission will not be adopted, and thus the number of technical submissions an industry member makes to a technical specification represents, at least to that industry member, how valuable the resulting technical specification is. *See id.* ¶ 38. Thus, the number of technical submissions approved for a specification, in Dr. Vander Veen's view, is a better proxy of the value of the specification than the number of patents associated with the specification.

The number of technical submissions, in turn, is indicative of the relative value of a particular patent within a portfolio of SEPs. Considering the hypothetical table below, for example, and assuming the LTE standard consisted of only three technical specifications, and two patents were associated with each specification, each patent would contribute 1/6 (16.7%) of the value of the standard if the number of patents per technical specification was a meaningful proxy for value. But according to Dr. Vander Veen's theory, each patent should not be valued equally because each

patent corresponds to a different number of approved technical submissions. The patents associated with TS 3.0, for example, are more valuable than the patents associated with TS 1.0 because the TS 3.0 patents correspond to ten technical submissions, whereas the TS 1.0 patents correspond to only two.

LTE Standard			
Technical Specification (TS)	# of Technical Submissions	# of Patents	Value
TS 1.0	2	2	11.1%
TS 2.0	6	2	33.3%
TS 3.0	10	2	55.5%

Thus, if each TS 3.0 patent corresponded to the same number of technical submission (five per patent), the value of one TS 3.0 patent would be 55.5% divided by two, or 27.8%. Taking Dr. Vander Veen's middle estimate for monthly profit attributable to LTE coverage, the royalty rate for a TS 3.0 patent would be  $(\$1.58 \times 0.278) \$0.44$ . Although TS 1.0 corresponds to the same number of patents as TS 3.0, more technical submissions correspond to TS 3.0, and thus each TS 1.0 patent, assuming each patent corresponds to an equally valued technical specification, would be valued less than a TS 3.0 patent, at \$0.088. This hypothetical is a simplified explanation of Dr. Vander Veen's theory, the principal point being that a technical specification's value is reflected by the number of associated submissions, which in turn reflects the value of the patented technology.

#### **D. Royalty Rate**

Dr. Vander Veen uses two methodologies to calculate royalty rates for the patents-in-suit, and each method is in essence a more complex version of the hypothetical explained above. *See* Vander Veen Rep. ¶¶ 171-79, Tab 3a, Dkt. 260-1, Tab 3a. The complexity stems not from a difference in economic theory but merely from the fact that the LTE standard, according to Dr. Vander Veen, consists of 11,477 essential patents, corresponding to 12,952 approved technical

submissions (from all sources), and of all the technical submissions, Huawei contributed 2,117 or 16%, which corresponds to 540 patents. Dr. Vander Veen maps the technical specifications to the technical submissions and patents and determines, based on associated technical submissions, how much each Huawei patent-in-suit contributes to the value of the standard. Dr. Vander Veen arrives at a final royalty rate after evaluating the *Georgia-Pacific* factors.

## DISCUSSION

When evaluating a party's challenge to an opponent's expert witness, the Court assumes the role of gatekeeper to ensure the reliability and relevance of the expert's testimony. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 597 (1993); *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150 (1999). Rule 702 guides the inquiry, specifying that a qualified expert may testify as long as his opinion will aid the fact finder and is reliable, i.e., the opinion must stand on sufficient data, reliable methods, and the facts of the case. *See Daubert*, 509 U.S. at 590; Fed. R. Evid. 702(a)-(d); *see also Micro Chem., Inc. v. Lextron, Inc.*, 317 F.3d 1387, 1391 (Fed. Cir. 2003) ("In 2000, Rule 702 was amended in response to *Daubert* and cases applying it.").

T-Mobile argues that Dr. Vander Veen's opinion fails to isolate the value of the LTE standard that should be apportioned to the patents-in-suit. Dkt. 260 at 4-5. According to T-Mobile, the opinion violates both requirements articulated by the Federal Circuit in *Ericsson v. D-Link*: (1) that the patented feature must be apportioned from all unpatented features reflected in a standard; and (2) that the royalty rate must be premised on the value of the patented feature, not value stemming from the standard's adoption. *See* 773 F.3d 1201, 1232 (Fed. Cir. 2014).

It is true that Dr. Vander Veen arrives at the profit attributable to LTE technology by determining what a customer would pay to access the LTE network (if that were a separately sold option), but it is not clear that Dr. Vander Veen made an incorrect assumption that all of this profit

is at least a reasonable estimate of the value of the underlying patented technology. There are 11,477 patents essential to the LTE standard, according to Dr. Vander Veen. It may be that one or more aspects of the LTE standard are not covered by those 11,477 patents. Consequently, Dr. Vander Veen may have overestimated LTE profit. But Dr. Vander Veen can explain any overestimate during cross-examination, and T-Mobile can point out any portions of the LTE standard that are not patented. *See Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1299 (Fed. Cir. 2015) (“To the extent [the expert’s] credibility, data, or factual assumptions have flaws, these flaws go to the weight of the evidence, not to its admissibility.”).

T-Mobile’s argument regarding post-adoption value also goes to the weight of Dr. Vander Veen’s testimony. There may be some portion of the price of LTE technology that is reflective of the fact that the technology has become standardized. But at least in this case, each cellular network presumably represents an advance over the previous iteration, and within this advance, there is value attributable to patented technology. The patented technology, according to Dr. Vander Veen, is associated with a technical submission, which if adopted becomes part of a technical specification. In other words, at least for the cellular networks at issue in these cases, it is reasonable to conclude that the standard’s adoption is at least correlated with the underlying patented technology. The adoption of the standard, and the underlying technology, are in some sense one in the same. Dr. Vander Veen’s mobile data pricing regression analysis adequately approximates the value of the underlying technology, even if the approximation is not perfect.

T-Mobile’s more forceful argument is that Dr. Vander Veen does not isolate the technology of each patent-in-suit, but rather uses technical submissions as an inadequate proxy. The problem, it appears, is that Dr. Vander Veen uses a valuation method that might be used in a real-world licensing context involving a large SEP portfolio. It would not make sense in such a context to

require the patent holder to go through each of the patents and define value on a patent-by-patent (or even claim-by-claim) basis. Rather, industry members involved with standardized technology have settled on a more efficient means, and this method has been published.

The question is whether this real world valuation method is sufficient under *Daubert* and Rule 702 for valuing a patent asserted in litigation. Although the question is a close one, the Court concludes that it is. Dr. Vander Veen explains, on the basis of industry publications, why the number of technical submissions reflects the value of a technical specification and then correlates that value to the patents linked to the specification. T-Mobile contends that this method has never been used to value an individual patent, but Dr. Vander Veen sufficiently takes individual patents into account by determining the *relative* value of each patent in Huawei's LTE SEP portfolio. It is true, as T-Mobile emphasizes, that Dr. Vander Veen's results depend on how patents are grouped in litigation, but this is an imprecision that T-Mobile is free to exploit on cross-examination.

Finally, T-Mobile contends that Dr. Vander Veen ignores the Huawei-Ericsson license and improperly accounts for infringement that never occurred. Dr. Vander Veen has his reasons for ignoring the Ericsson license, namely that Ericsson is a different type of market participant than T-Mobile, and T-Mobile can pursue this license during cross-examination or during its own damages presentation. As for Dr. Vander Veen's account of infringement activity that did not occur, the Court does not see a basis for excluding Dr. Vander Veen's royalty analysis for the '365 and '617 patents. But T-Mobile appears to be correct that the functionality covered by those patents was never implemented by T-Mobile. The Court will address the issue at the pretrial conference. Obviously, Dr. Vander Veen's final damages opinion cannot be based on infringement that did not occur, and the Court will not ask the jury to determine an advisory royalty rate for two noninfringed patents.

## CONCLUSION

Dr. Vander Veen's damages opinion satisfies *Daubert* and Rule 702. There may be discrepancies between the value of the LTE standard and the value of the underlying technical specifications, submissions, and patents, but these discrepancies are the type of flaws that can be addressed by cross-examination.

Accordingly,

It is **ORDERED**:

T-Mobile's motion to exclude Dr. Vander Veen's testimony is **DENIED**.<sup>1</sup>

**SIGNED this 10th day of September, 2017.**



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ROY S. PAYNE  
UNITED STATES MAGISTRATE JUDGE

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<sup>1</sup> Dkt. 260 in Case No. 2:16-cv-00052  
Dkt. 251 in Case No. 2:16-cv-00055  
Dkt. 251 in Case No. 2:16-cv-00056  
Dkt. 246 in Case No. 2:16-cv-00057